

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of	)	
Review of the Emergency Alert System;	)	
Independent Spanish Broadcasters Association,	)	
the Office of Communication of the United Church	)	EB Docket No. 04-296
of Christ, Inc., and the Minority Media and	)	
Telecommunications Council, Petition for	)	
Immediate Relief;	)	
	)	
Randy Gehman Petition for Rulemaking	)	

**Ex Parte Comments of the Broadcast Warning Working Group (BWWG) in Support of  
FEMA's Petition for Partial Reconsideration of the Commission's Fifth Report and Order**

**I. Preface**

1. The Broadcast Warning Working Group (BWWG) core membership consists of hands-on Emergency Alert System (EAS) subject experts from the fields of broadcast association management, broadcast radio and television engineering management and support, radio and television news, industry technical publication, and state EAS Committee leadership. The BWWG hosts a website, the **EAS Forum** at:

[<http://eas.radiolists.net/>]

**II. The Commission Has Taken a Major Step to Improve Public Warnings**

1. First, the BWWG commends the Commission. The Fifth Report and Order can have the overall effect of bringing about major advances for public warnings in the United States through the introduction of IPAWS OPEN. The benefit of these advances will be that a public at risk from natural and man-made disasters will have a better chance of receiving timely, complete and effective warnings so they can take actions that will help save more lives and preserve more property.

**III. The FEMA Petition Raises Critical Issues The Commission Needs to Address Now**

1. The BWWG has studied FEMA's Petition for Partial Reconsideration of the Commission's Fifth Report and Order (Petition). In it, FEMA makes a compelling case for the Commission that "unintended consequences"...."may cause a CAP-EAS device to interrupt the programming of EAS participants and only convey the data header, possibly an alert signal, and an End of Message (EOM)." The BWWG not only agrees with FEMA on this point, but also believes that the word "may" in their Petition should be replaced with the phrase "highly likely".

2. FEMA goes on to state that the Commission's prohibition of Text To Speech technology, or TTS, will result in a seriously degraded user experience for viewers and listeners. It is highly likely in the opinion of the BWWG that, without TTS, viewers might well experience warning message content scrolling across their screens that would be cut short prematurely by the EAS EOM, or End Of Message tone. Aural audiences are more likely than not to get little or no useful information if the message is cut short and/or the analog audio is garbled or noisy. The BWWG agrees with FEMA that the public will be deprived of a key benefit of CAP-EAS should the TTS prohibition stand.

3. Equally telling is FEMA's assessment that subsequent attempts to supplement or correct the above conditions with follow-up messages could be rejected by EAS devices as a repeat of a previously transmitted message. The BWWG agrees with FEMA's assessment of this outcome should the Commission's TTS decision stand.

4. The FEMA Petition also outlines a likely outcome if a CMAS alert is issued with no reference audio file "...and the public is left to make life safety decisions based on a 90 character CMAS message alone."<sup>1</sup> The BWWG believes this outcome based on the Commission's TTS prohibition would represent an unacceptable condition short term, and, long term, would undermine the confidence of both a public at risk and the emergency management community in the ability of IPAWS OPEN to provide full value warnings via CAP-EAS.

5. The BWWG agrees with all of the points that FEMA makes in its Petition.

#### **IV. Other Concerns Related to the TTS Prohibition**

1. The BWWG would like to add to the list of negative impacts to the EAS submitted by FEMA that a TTS prohibition would precipitate. It would put off long-promised benefits of CAP-EAS eagerly awaited by the sight-impaired community to some uncertain future date, a major disservice to this community. In a recent post on the BWWG's [EAS Forum](#), we made the case that the June 30, 2012, move to CAP-EAS should not be crippled by preserving elements of legacy EAS that are based on the proprietary and effectively closed and limited entity we refer to as the SAME protocol. The BWWG considers the current Commission prohibition on the use of TTS as a decision in the Fifth Report and Order that takes us back to the severe limitations of legacy SAME EAS and, in the process, causes damage to the emerging "brand" of CAP-Enhanced EAS, not to mention directly impacting those people who are sight-impaired.

2. In that posting we said, "The BWWG believes that preserving legacy EAS SAME capability has to be a very short-term solution. EAS stakeholders and the general public are being told that the CAP will greatly improve public warnings. Unfortunately, the vast majority of the public and EAS stakeholders will not know that the EAS public warning process has been improved for some time as long as CAP messages are "strained" through the SAME filter." CAP EAS messages are already being generated by warning centers in some parts of the country and transmitted to radio, TV and cable systems. When heard or viewed on the air, they will sound and look no different than they did before if they default to what is burned into PROM's in classic EAS devices fed by CAP converters, or "dumbed down" by legacy capabilities built in to new broadcast and cable entry point CAP decoders. While the EAS community and the public wait for what is being called "next

---

<sup>1</sup> FEMA Petition at (6)

generation” EAS, we run the risk of the effort being labeled as the warning equivalent of building a bridge to nowhere. When a CAP message is filtered by conversion to SAME<sup>2</sup> it is analogous to a CAP message being run through a strainer. What starts out as a rich and nourishing full course dinner winds up as a, thin, watery broth with the meat and potatoes filtered out. The BWWG believes that every effort should be made to integrate the capabilities of CAP into all aspects of EAS as soon as possible to correct the “strainer effect” that continued use of SAME EAS messaging will have. For example – TV Stations should be encouraged, as early as possible, to derive their ‘EAS Crawl’ **from the textual information contained in the CAP message.**<sup>3</sup> Radio EAS should use text-to-speech converters that can automatically convey vital CAP details aurally<sup>4</sup> that will better assist people at risk to take proper protective actions. Taking these steps as soon as possible will help avoid prolonging confusion caused because some EAS entities will be still be running legacy ‘Header Codes’ in the SAME message that can conflict with the voice message. This could lead to giving the public confusing warning information as pointed out in Comments filed by the Society of Broadcast Engineers when Docket 04-296 was originally released. Let us also remember that the CAP has been heavily promoted to stakeholders as a way to address long-standing concerns of the hearing and sight-impaired communities who have been (rightly so) highly critical of legacy public warning efforts.

3. The BWWG draws heavily on emails and other communications from subscribers to our email list for our Comments before the Commission. A number of State and Local Emergency Communications Committee members (SECC’s and LECC’s) have expressed their concern over the Commission’s TTS prohibition. One telling message we have received is from a central California LECC Chair. He is very much concerned that National Weather Service (NWS) EAS events will continue to use actual audio from the NWS low band VHF transmitters. This audio from NWS low band VHF is at best poor quality with noise that often makes NWS analog audio messages difficult to understand. TTS can help in such situations.<sup>5</sup>

4. In their Petition, FEMA raises the issue of current Internet bandwidth and the reality of what happens to that bandwidth during heavy Internet usage. Attaching sound files to CAP messages is certainly possible, but the BWWG believes that many EAS entry points with only DSL’s maximum bandwidths will introduce unwanted latency to the warning process. Until such time as broadband is much more available, broadcast entry points will be put at a serious latency disadvantage that will adversely affect the user experience of a public at risk. In short, latency = warning message disruptions = a poor user experience for people at risk who need warning information to save their lives and property. The instant and unpredictable tendency of killer tornados to change path and the need to get accurate warning information out fast for such events should serve as a teachable lesson to the Commission in assessing whether to continue to prohibit TTS, or not.<sup>6</sup>

---

<sup>2</sup> While not stated explicitly in our posting that we are quoting below, we find that the Commission’s prohibition of TTS is one of several decisions that potentially locks in legacy EAS warnings for far too long a period of time.

<sup>3</sup> Emphasis added

<sup>4</sup> The BWWG thinks this is especially important in view of the growing number of broadcast entities that operate EAS in the automatic mode, and directly speaks to the issue of the Commission’s prohibition of the use of TTS.

<sup>5</sup> The BWWG has a short article and a sample analog audio file demonstrating this point posted at:  
<http://eas.radiolists.net/why-we-need-text-to-speech/>

<sup>6</sup> The BWWG must raise a peripheral but germane side issue. There is currently no standard for CAP EAS file attachment protocol for audio and video. The BWWG believes that allowing this standard void to exist means that some origination entities could use formats that introduce extra and unwanted latency to overall EAS-CAP message propagation. The best example we can cite is that of the relative file sizes of compressed MP3 audio files vs.

5. Washington State is not alone in its use of TTS. Several east coast and Midwest states have CAP EAS systems that use TTS technology marketed by like Digital Alert Systems<sup>7</sup> or GSS.<sup>8</sup>

6. The National Weather Service (NWS) has used TTS for years. BWVG wonders if stations that carry NOAA-generated EAS activations utilizing TTS would be in violation if the prohibition stands.

7. EAS warnings are generally not composed in quiet areas suitable for intelligible audio recordings. IPAWS OPEN CAP enables First Responders to issue secure, authenticated EAS warnings right from the scene of emergencies. Aural warning messages recorded in the field could well be impaired by sirens, vehicle noise, other voices, environmental factors such as wind and rain, not to mention the emotions of the speaker. The straightforward, emotionless quality of CAP-enabled TTS without background noise would be an asset to the warning process.<sup>9</sup>

## V. TTS Does Work!

1. Washington State has been testing TTS in its own CAP roadmap for over one year. While no one is saying TTS is perfect, the radio, TV and cable industries in the State of Washington are solid in their support of TTS. Valuable lessons have been learned in this more than one-year test period that can help other users implement TTS with good results. Adjustments to word pronunciations are possible with TTS at the current state-of-the-art. They have convinced the BWVG that the value proposition of implementing TTS now is clear.

2. In their year plus of TTS implementation, Washington State recognized that the CAP-driven TTS technology they employed needed customization to handle pronunciation of specialized words as well as some ordinary words that are not parsed properly. To this end, they came up with a TTS pronunciation table for a long list of Indian place names in their state. The BWVG believes that the following sample of TTS specific pronunciations demonstrate that TTS implementation, in its current state of development, can be made to work:

"sauk"="saw uk"  
"selah"="c lah"  
"sequim"="seque im"  
"skagit"="skaag it"  
"skamania"="ska mania"  
"skokomish"="sko ko mish"  
"skookumchuck"="snook come chuck"  
"skykomish"="Sky ko mish"  
"snohomish"="snow home ish"  
"snoqualmie"="snow quall me"<sup>10</sup>

---

uncompressed files. While uncompressed files may have overall superior audio quality, their bloated file size introduces unacceptable latency in our current Internet environment that often must propagate using transmission bandwidths that sometimes are as slow, or slower, than a 56 kbps dial-up modem.

<sup>7</sup> <http://www.digitalalertsystems.com/default.htm>

<sup>8</sup> [http://www.gssnet.us/eas-cap/broadcast\\_detail.htm](http://www.gssnet.us/eas-cap/broadcast_detail.htm)

<sup>9</sup> A sample audio file for a recent TTS AMBER alert issued through NOAA Weather Radio can be heard at:

<http://tinyurl.com/Sample-AMBER-TTS>

<sup>10</sup> Excerpt is from a complete table supplied by the Washington EAS State Emergency Communications Committee to the BWVG. The full table currently has 101 entries.

## **VI. Summary and Recommendation**

1. The BWWG supports FEMA's Petition 100%. All public and private EAS stakeholders need to focus on improving warnings for a public at risk, including (and especially) the Commission. Launching CAP-EAS on June 30 of this year, while at the same time prohibiting the key CAP-EAS benefit of TTS, makes no sense, and will have the effect of damaging the emerging CAP-EAS IPAWS OPEN "brand" in the eyes of the public. We strongly suggest that the Commission reconsider its prohibition of TTS and allows proven providers of this capability the latitude to bring much needed improvements to the warning process. The BWWG is asking the Commission to not to let the goal of the perfect stand in the way of a clear, present and immediate need for the possible.